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EXAMINER

HUQ, AHMED E

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/585,101	Applicant(s) VETILLARD ET AL.	
	Examiner AHMED E. HUQ	Art Unit 2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-18 are presented for examination

Claim Objections

2. Claim 14 objected to because of the following informalities: Applicant states “**Application** of the method according to claim 10 for automatic filtering of a **set of programs** relative to a given set of validity criteria”. Examiner suggests it should read as “The method according to claim 10....”. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-14, 16-18 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 8-10 recites events which **may** occur during **possible** executions of the program. **Claim 16**, Page: 11, line 16 recites **possible** executions of the programs; Page: 12, lines 1, 4, 5, 14, 16, 17, Claim language “possible” is unclear. Appropriate action required.

5. Claim 1 recites the limitation that has insufficient antecedent basis below:

the structure of the program (Page 4, line 8)

the possible execution path of..(Page 4, line 9)

the values of the possible data (Page 4, lines 9 and 10)

the states and data handle (Page 4, line 12)

the computation of said (Page 4, line 16)

Claims 2-14 mirror the deficiencies of claim 1 and is also rejected.

Claims 17-18 mirror the deficiencies of claim 16 and is also rejected.

Appropriate correction is required

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 15 rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 15, recites a "A system for distribution of applications... "; that has been reasonably interpreted as computer program, component, file per se. In this claim the function of the program is just software, not any hardware. Claim 15 fails to recite the "system" as stored on an appropriate computer readable device, which defines structural and functional interrelationships between the software and other components of a computer that permit the software's functionality to be realized-see MPEP 2106.01(I), Therefore, Claim 15 is rejected as non-statutory.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

**Claims 1-18 are Rejected under 35 U.S.C. 102(e) as being anticipated by
Ramaswamy et al, US 2004/0088587 A1**

Claim 1, Ramaswamy teaches a method for determining the operational characteristics of a program , ~~characterized in that it comprises~~ comprising a verification procedure comprising the following steps (Paragraph 0011, user verification step/operation): a first step comprising:

expressing the operational characteristics of the program as functions dealing with occurrences or sequences of occurrences of events which may occur during possible executions of the program (Paragraph 0043, Fig. 1 illustrates verification engine 114-1 to 114-N represent the number of verification object families or types) , said events being able to deal with particular operations, particular values, at particular program points and in particular states of the program (Paragraph 0043, Fig. 1, context 108 records illustrates all relevant variables for the verification process);

determining a possible level of precision with which these characteristics must be determined (Fig. 7 illustrates client 102 and 702-716 where level of verification process starts);

determining a possible set of particular contexts of execution in which the program will always be executed (see abstract, Paragraph 0011 and 0012 during verification process and operations of an application specific requirements used by user to verify program policy);

determining possible operational specificities of a set of platforms on which the program will be executed (Paragraph 0082, Fig. 2 computer system (server) 204 specify a set of platform);

a second step of estimation, by program analysis, and in consideration of said possible level of precision (Fig. 7 illustrates client 102 and 702-716 where level of verification process), of said possible set of particular contexts of execution and of said possible operational specificities of platforms (Paragraph 0082 Fig. 2 computer system (server) 204 and Fig. 7 server 104), of information relating to the structure of the program, the possible execution paths of the program and to the values of possible data (Paragraphs 0075-0079), at various points of the execution paths and under different execution conditions, of the states and data handled by the program (Paragraph 0046, 0102-0104 verification process contain various operations, conditions where states are defined) ;

a third step for determining said operational characteristics, by means of the information extracted by said program analysis (Fig. 7 illustrates client 102 and 702-716 verification process determines the operation characteristics), by the computation of said functions on the occurrences or particular sequences of occurrences of particular operations (Paragraph 0043, Fig. 1 illustrates verification engine 114-1 to 114-N represent the number of verification families or types), dealing with particular values, at particular points of the program(Paragraphs 0075-0079), in particular states of the program, for the set of execution paths determined by analysis (Paragraph 0046, 0102-0104, Fig. 7, 702-716).

Claim 2, Ramaswamy teaches ~~characterized in that~~ wherein, in the case when the program is interactive and may depend on an undetermined number of dynamic values resulting from this interaction, the contexts of execution are given by a description abstracted from ~~the~~ possible series of data representing said dynamic values (Paragraph 0030, 0094 and Fig. 5A and 5B illustrates a verification policy).

Claim 3, Ramaswamy teaches, ~~characterized in that~~ wherein, in the case where the program is inserted into a framework of execution (see abstract) , said second step of estimation comprises ~~the~~ static analysis (Paragraph 0090) which also take into account the semantics of this framework of execution, including ~~the~~ possible implicit interaction loops of the program (Fig. 6 illustrates account 604 verifications with mismatches Accept 606 or Reject 608)

Claim 4, Ramaswamy teaches ~~characterized in that~~ wherein certain of said particular operations (which form events, accompanied by constraints on the values handled, the execution points, and the statuses of the program) are defined as one of the following actions (see abstract where authentication process takes many steps/operations):

call to a given routine, access to a given variable, reading or writing on a given port, computation of a given arithmetic expression (Paragraph 0102), completion of execution of the program or of a routine (on a normal return or ending an exception). (Paragraph 0011 and 0012)

Claim 5, Ramaswamy teaches ~~characterized in that~~ wherein certain of said static analysis consist of abstract interpretations of the program (Fig. 6), on abstract domains

which may notably represent possible sets of values and symbolic expressions (Paragraph 0102).

Claim 6, Ramaswamy teaches ~~characterized in that~~ wherein said extracted information are represented by means of one or more of the following structures (see abstract): status graph of the program, inheritance graph, graph of the routine calls of the program, control flow chart of each routine of the program, structure of loops and catch-up of exceptions, structure of basic blocks, abstraction of the status of the program at an execution point (Fig. 6 illustrates four state transition for verification policy).

Claim 7, Ramaswamy teaches ~~characterized in that~~ wherein said extraction of information does not apply to unnecessary information for determining the operational characteristics (Paragraph 0034), both from the viewpoint of the amount of information extracted and from the precision of these pieces of information (Paragraph 0033).

Claim 8, Ramaswamy teaches ~~characterized in that~~ wherein only the major pieces of information among said extracted information are computed and saved and in that the other pieces of information are only computed when necessary for determining said operational characteristics (Paragraph 0034, 0035).

Claim 9, Ramaswamy teaches ~~characterized in that~~ wherein the major pieces of information are information extracted at the breakdown nodes of the code of the routines in a graph of basic blocks and in that the other pieces of information (in the body of the basic blocks) are recomputed by local analysis from information saved at the start and end of the corresponding block (Paragraph 0103-0106).

Claim 10, Ramaswamy teaches ~~characterized in that~~ wherein said operational characteristics represent validity criteria and in that said determination establishes that the program is valid (Fig. 6, if Account 604 matches and no mismatch it **Accept 606** verification) (because it observes each of said criteria), or invalid (because at least one of said criteria cannot be observed) (Fig. 6, Reject 608 if there are any mismatch of verifications).

Claim 11, Ramaswamy teaches ~~characterized in that~~ wherein said validity criteria express security or interoperability rules (Fig. 6 and Paragraph 0039).

Claim 12, Ramaswamy teaches ~~characterized in that~~ wherein said operational characteristics characterize (see abstract) ~~the~~ resources which are consumed and ~~the~~ functionalities which are exploited by the program during its execution and in that said determination provides an execution profile of the program (Paragraph 0029).

Claim 13, Ramaswamy teaches ~~characterized in that~~ wherein ~~the~~ a computation of certain of said functions associated with the operational characteristics is performed during said static program analysis, as soon as certain of said pieces of information are extracted (Paragraph 0036).

Claim 14, Ramaswamy teaches Application of the method according to claim 10 for automatic filtering of a set of programs relative to a given set of validity criteria (Paragraph 0036), ~~characterized in that~~ wherein the extraction of information by static program analysis is only completed once per program and reused whenever necessary for determining whether the program observes said set of validity criteria (Paragraph 0040-0042).

Claim 15, Ramaswamy teaches A system for distribution of applications ensuring that the applications observe validity criteria associated with the execution platforms of these applications (see abstract), ~~characterized in that it comprises~~ comprising filtering means designed such that, for any client desiring to accede to the applications for a certain execution platform, the applications are filtered by a verification procedure (Fig. 7 illustrates the verification process)

in accordance with the method according to any one of claims 1 to 12, only the applications which observe the validity criteria for said platform being presented to the client (same art rationale apply as per claim 1).

Claim 16, Ramaswamy teaches a system for multi- application execution ensuring that the applications observe given validity criteria, ~~characterized in that it comprises~~ comprising: (see Abstract)

An application analysis server, a server for validation of applications and a multi-application platform (Paragraph 0026), and

Means for ensuring, prior to loading or execution of an application on the platform (Paragraph 0027 uses verification policy before processing):

observance by this application of said validity criteria (Paragraph 0033 where verification objects are used for the purpose of verifying the identity of users) ~~according to the method according to any one of claims 1 to 12, the~~ an extraction of information being carried out on the application analysis server and an evaluation of said validity criteria being carried out on the server for validation of applications (Fig. 1 verification server 104, application 110), and

in the case when one of the validity criteria cannot be observed, ~~the~~ a failure of ~~the~~ loading or execution of the application (Paragraph 0006, ~~the~~ a change of the status of the system and an emission of a sound or visual signal to alert of failure of loading or execution (Paragraph 0039 where verification policies implements one or more verification objects), the means for ensuring observance by said application of said validity criteria executing a procedure comprising the following steps:-

first step comprising:
expressing the validity criteria of the program as functions dealing with occurrences or sequences of occurrences of events which may occur during possible executions of the program (Paragraph 0043, Fig. 1 illustrates verification engine 114-1 to 114-N represent the number of verification object families or types), said events being able to deal with particular operations, particular values, at particular program points and in particular states of the program (Paragraph 0043, Fig. 1, context 108 records illustrates all relevant variables for the verification process);;

determining a possible level of precision with which these validity criteria must be determined (Fig. 7 illustrates client 102 and 702-716 where level of verification process starts);

determining a possible set of particular contexts of execution in which the program will always be executed (see abstract, Paragraph 0011 and 0012);

determining possible operational specificities of a set of platforms on which the program will be executed (Paragraph 0082, Fig. 2 computer system (server) 204 specify a set of platform);

a second step of estimation, by program analysis, and in consideration of said possible level of precision (Fig. 7 illustrates client 102 and 702-716 where level of verification process), of said possible set of particular contexts of execution and of said possible operational specificities of platforms (Paragraph 0082 Fig. 2 computer system (server) 204 and Fig. 7 server 104), of information relating to the structure of the program, the possible execution paths of the program and to the values of possible data, at various points of the execution paths and under different execution conditions, of the states and data handled by the program (Paragraph 0046, 0102-0104 verification process contain various operations, conditions where states are defined) ;

a third step for determining said validity criteria, by means of the information extracted by said program analysis (Fig. 7 illustrates client 102 and 702-716 verification process determines the operation characteristics), by the computation of said functions on the occurrences or particular sequences of occurrences of particular operations (Paragraph 0043, Fig. 1 illustrates verification engine 114-1 to 114-N represent the number of verification families or types), dealing with particular values, at particular points of the program, in particular states of the program, for the set of execution paths determined by analysis (Paragraph 0046, 0102-0104, Fig. 7, verification session between a verification client device and verification server 702-716).

Claim 17, Ramaswamy teaches characterized in that wherein the server for validation (Fig. 1, verification server 104) of applications is executed on the multi-application platform (Fig. 2, computer system server 204 consist of multiple application),

the application analysis server executing outside the platform (Paragraph 0043 where data manager 116, data stores 118,120 and 122 are outside of verification server 104).

Claim 18, Ramaswamy teaches ~~characterized in that~~ wherein the application analysis server and the server for validation of applications are executed on the multi-application platform (Fig. 7 illustrates verification session between a verification client device and a verification server for validation policy and Fig. 2 server 204).

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED E. HUQ whose telephone number is (571)270-1515. The examiner can normally be reached on Monday-Friday 9:-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on 571-272-3695. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

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Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ahmed E Huq/
Examiner, Art Unit 2192
9/10/2008

/Lewis A. Bullock, Jr./
Supervisory Patent Examiner, Art
Unit 2193